

Claims

[c1] WHAT IS CLAIMED IS:

1. A drive device comprising:
gear unit having a gear shaft;
a motor unit having a motor shaft drivingly connected to
the gear shaft; and
at least one cooling unit arranged within the drive de-
vice.

[c2] 2. The drive device according to claim 1, wherein the
cooling unit is arranged in the gear unit.

[c3] 3. The drive device according to claim 1, wherein the
cooling unit is arranged between the gear unit and the
motor unit.

[c4] 4. The drive device according to claim 1, wherein the
cooling unit comprises at least one fan.

[c5] 5. The drive device according to claim 4, further com-
prising a coupling unit arranged between the gear unit
and the motor unit and connected to the gear unit and
the motor unit, wherein the at least one fan is arranged
in the coupling unit.

- [c6] 6. The drive device according to claim 5, wherein the coupling unit comprises a coupling hub connected fixedly to the gear shaft and the motor shaft.
- [c7] 7. The drive device according to claim 6, wherein the coupling hub is configured to elastically widen over a portion of a length thereof.
- [c8] 8. The drive device according to claim 7, wherein the coupling hub has at least one longitudinal slot.
- [c9] 9. The drive device according to claim 8, further comprising a clamping ring arranged in an area of the longitudinal slot of the coupling hub.
- [c10] 10. The drive device according to claim 9, wherein the clamping ring and the coupling hub together form a monolithic part.
- [c11] 11. The drive device according to claim 9, wherein the clamping ring is a separate part seated on the coupling hub.
- [c12] 12. The drive device according to claim 9, wherein the at least one fan is fixedly mounted on the clamping ring.
- [c13] 13. The drive device according to claim 6, wherein the at least one fan is fixedly mounted on the coupling hub.

- [c14] 14. The drive device according to claim 6, wherein the fan is fixedly mounted on the coupling sleeve.
- [c15] 15. The drive device according to claim 4, wherein the coupling unit has a flow chamber and wherein the fan is positioned in the flow chamber.
- [c16] 16. The drive device according to claim 15, wherein the coupling unit has at least one intake opening and at least one exhaust opening that open into the flow chamber.
- [c17] 17. The drive device according to claim 4, wherein the at least one fan is fixedly mounted on the motor shaft.
- [c18] 18. The drive device according to claim 1, wherein the cooling unit has at least one flow chamber for a cooling medium.
- [c19] 19. The drive device according to claim 18, wherein the flow chamber is provided within a ring.
- [c20] 20. The drive device according to claim 19, wherein the ring is arranged in the coupling unit.
- [c21] 21. The drive device according to claim 19, wherein the ring is arranged in the gear unit.
- [c22] 22. The drive device according to claim 19, wherein the ring has a U-shaped cross-section.

- [c23] 23. The drive device according to claim 19, wherein the ring surrounds the motor shaft at a spacing.
- [c24] 24. The drive device according to claim 18, wherein the cooling unit has at least one inlet conduit and at least one return conduit that open into the flow chamber.
- [c25] 25. The drive device according to claim 1, wherein the coupling unit is a plug coupling.
- [c26] 26. The drive device according to claim 25, wherein the plug coupling has a coupling sleeve connecting a coupling hub of the gear unit and a coupling hub of the motor unit to one another.